UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,338	11/09/2001	Wei Xiong	M-12326 US	3425

			EXAMINER
32566	7590	03/22/2005	DESIRE, GREGORY M

PATENT LAW GROUP LLP
2635 NORTH FIRST STREET
SUITE 223
SAN JOSE, CA 95134

ART UNIT	PAPER NUMBER
2625	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/008,338	XIONG, WEI
	Examiner	Art Unit	
	Gregory M. Desire	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>09 November 2001</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-46</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) <u>1-16 and 20-46</u> is/are allowed.
6)☐ Claim(s) _____ is/are rejected.
7)☒ Claim(s) <u>17-19</u> is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>21 March 2002</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
            application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date <u>3/19/02</u>.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-16 and 20-46 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Altunbasak (6,393,054) and Wilcox et al (6,072,542).

Regarding claims 1, 22, 27, 32, 34, 36, 37, 40 and 41, Altunbasak discloses,

Determining a first difference between a first frame and a second frame (note fig.

1 block 14, col. 4 lines 29-32 and col. 7 line 45, difference detector determines the

difference between frames);

Determining whether the first difference exceeds a threshold (note col. 7 line 50,

applying a threshold to the difference detector determines whether difference compares

with a threshold).

When the first difference exceeds the threshold (note col. 7 lines 51-53, shows

difference exceeding a threshold),

However, Altunbasak is silent disclosing computing edge difference and color

difference. Wilcox discloses transition states are found by feature values computed by

color difference and edge difference (note Wilcox col. 3 lines 45-48). Therefore it would

have been obvious to a person of ordinary skill in the art at the time the invention was

made to compute edge difference in the system of Altunbasak. Finding transition states would have been a highly desirable feature in the video art due to its frame comparison features and Wilcox recognizes finding transition states would be expected when computing edge difference of Wilcox is included in Altunbasak

Determining whether the first frame and the second frame comprise a shot boundary based on the value of the edge difference or color difference (note Wilcox lines 20-28, variation results in a shot boundary).

Regarding claims 2, 25, 30 and 46 Altunbasak and Wilcox discloses,

Selecting the first frame and the second frame from a video segment (note Altunbasak figure 1 video data input).

Regarding claim 3 Altunbasak and Wilcox discloses,

Selecting the first frame and the second frame based on a predetermined value that is used to step through the video segment (note Altunbasak col. 4 lines 30-32 and 47-50, first frame and second frame is compared from predetermined data such as stored video data).

Regarding claim 4 Altunbasak and Wilcox discloses,

Wherein the predetermined value is user defined (note Altunbasak col. 4 lines 47-50, input data is user controlled).

Regarding claim 5 Altunbasak and Wilcox discloses,

Wherein the predetermined value is set at a default value (note Altunbasak col. 4 lines 47-50).

Regarding claim 6 Altunbasak and Wilcox discloses,

When the difference does not exceed the threshold, selecting third and fourth frames based on a predetermined value for stepping through video segment (note Altunbasak col. 4 lines 25-40, plural frames of video group are compared with threshold).

Regarding claims 7, 23, 28 and 44 Altunbasak and Wilcox discloses,

Setting a candidate flag to indicate that the first frame and the second frame comprise a border for a candidate shot boundary (note Altunbasak, col. 4 lines 38-40, examiner interprets extracting key frames of shot boundary as a candidate shout boundary).

Regarding claims 8, 24, 29 and 45 Altunbasak and Wilcox discloses,

Selecting a new first frame and a new second frame; and using the candidate flag to determine whether to compute a second difference between the new first frame and a new second frame (note Altunbasak, fig. 1 block 17, shows a second difference of new frames).

Regarding claim 9 Altunbasak and Wilcox discloses,

Setting a candidate frame to the first frame (note Altunbasak, col. 4 lines 38-40,

second candidate frame).

Regarding claim 10 and 33 Altunbasak and Wilcox discloses,

Wherein the first difference is computed using a partial block-based comparison

technique (note Altunbasak, fig. 1 block 14, difference detector computes first

difference).

Regarding claim 11 Altunbasak and Wilcox discloses,

Determining whether the first frame and the second frame are consecutive frame

(note Altunbasak col. 5 lines 1-10, video data in sequence).

Regarding claim 12 Altunbasak and Wilcox discloses,

Computing a second difference between the first frame and the second frame

(note Altunbasak, col. 6 lines 34-35, examiner interprets this as second difference).

Regarding claims 13 and 38 Altunbasak and Wilcox discloses,

If the second difference exceeds the threshold, detecting an abrupt break (note 6

lines 45-55, interprets sharp shot as abrupt break).

Regarding claims 14 and 39 Altunbasak and Wilcox discloses,

If the second difference does not exceed the first threshold;

Determining whether the color difference or edge difference exceeds a second threshold, and

If the color difference or edge difference exceeds the second threshold, Detecting a gradual transition (note Altunbasak, col. 6 lines 62-67, shows detecting gradual shot boundary).

Regarding claim 15 Altunbasak and Wilcox discloses,

Wherein the second threshold is smaller than the first threshold (note Altunbasak fig. 1, block 13 threshold selection unit).

Regarding claim 16 Altunbasak and Wilcox discloses,

If the color difference or edge difference do not exceed the second threshold, selecting a third frame and a fourth frame processing to detect a shot boundary based on a previously selected candidate frame (note Altunbasak col. 6 lines 62-65, if difference do not exceed threshold another detector is selected thus another comparison with frames).

Regarding claim 20 Altunbasak and Wilcox discloses,

When the first fame and the second frame comprise a border for a shot boundary, outputting the first frame and the second frame (Fig. 1 output data to be stored).

Regarding claim 21 Altunbasak and Wilcox discloses,

Performing post processing to identity potential shot boundaries that are false

alarms (note Wilcox col. 10 lines15-20).

Regarding claims 26 and 42 Altunbasak and Wilcox discloses,

Generating an edge histogram; and using the edge histogram to determine

whether the first frame and the second frame comprise a shot boundary (note Wilcox

col. 5 lines 46-67, edge are based on grey level).

Regarding claims 31 and 43 Altunbasak and Wilcox discloses,

Generating a color histogram; and using the color histogram to determine

whether the first frame and the second frame comprise a shot boundary (note Wilcox

col. 5 lines 46-67, examiner interprets grey-level histogram as color histogram)

Regarding claim 35 Altunbasak and Wilcox discloses,

A video camera, wherein the sequence of frames is recorded with the video

camera (note Wilcox, col. 3 lines 27-28, boundary shot is from a video camera).

Allowable Subject Matter

3.   Claims 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4.   The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 17 prior art fails to teach frames that are not consecutive, selecting a middle frame and computing differences using middle frames. These in combination with other features are not taught in the prior art. Claims 18-19 depend on claim 17, therefore also objected.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory M. Desire whose telephone number is (703) 308-9586. The examiner can normally be reached on M-F (8:30-6:00) Second Monday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Gregory M. Desire
Examiner
Art Unit 2625

G.D.
March 21, 2005

BHAVESH M. MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600